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THE ABANDONMENT OF SENSATIONALISM IN PSYCHOLOGY¹

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The basal purpose of this paper is to call attention to the advance made by present-day psychology on the sensationalism which persisted into the writings of the last decade. In 1893 Wundt, for example, was still designating the affection (*Gefühlston*, pleasantness or unpleasantness) as an 'attribute of sensation'.² To-day almost all psychologists agree in recognizing at least two classes of not further analyzable elements of consciousness—on the one hand, the sensational elements, on the other hand, the affective elements, pleasantness and unpleasantness. Stumpf's view, that sense-pleasantness and sense-unpleasantness are sensational, is the only notable exception to this agreement;³ and recent criticism—that of Titchener,⁴ Johnston,⁵ and Meyer⁶—has so successfully assailed the doctrine that it need not here be considered.

But the effort to correct the crude and misleading simplicity of sensationalism has not stopped short at the admission of a new class of elements including merely pleasantness and unpleasantness. Explicitly or implicitly many psychologists now admit the occurrence of still other elemental kinds of consciousness. With the two important and distinct forms of this advance on sensationalism this paper specifically deals.

I

The first of these contemporary movements does not add to the number of classes of conscious elements, but it enlarges one of the classes already recognized. This is the theory of Wundt who includes in the class of the affections, or 'feelings', four elements (or rather classes of elements) co-ordinate with

¹ Read, by title, at the meeting of the American Psychological Association in Baltimore, December, 1908.

² "Physiologische Psychologie," 4te Aufl., 1893, Bd. I, 555.

³ *Zeitschrift f. Phys. u. Psych.*, 1906, XLIV, 1 ff.; *Bericht über den II. Kongress f. experimentelle Psychologie*, 1907, 209 ff. It should be noted that Stumpf expressly restricts himself to the consideration of the sense-feelings (*die sinnlichen Gefühle*).

⁴ "Lectures on Feeling and Attention," 1908, pp. 82 ff.

⁵ *Psychological Bulletin*, V, 65 ff., 1908.

⁶ *Psychological Review*, XV, 205 ff., 1908.

pleasantness and unpleasantness. These four are: tension and relaxation (*Spannung-Lösung*), excitement and quiescence (*Erregung-Beruhigung*).¹ Relaxation is opposed to tension and quiescence to excitement as pleasantness is opposed to unpleasantness, so that we have three pairs of opposites or, as Wundt calls them, 'dimensions' of feeling. The arguments for this view may be summarized as follows:

(a) The Wundtians point out that emotional states differ, according to common consent, not merely as pleasant and unpleasant, but also as exciting or quieting, straining or relaxing. Both melancholy and terror, for example, are unpleasant emotions, yet the first is quieting, or depressing, while the second is as clearly exciting.²

(b) This purely introspective argument is verified and supplemented by experiment. Alechsieff, whose experimental study is one of the best and most recent of those put forth by members of the Wundtian school,³ stimulated his subjects in such wise as presumably to bring about emotional experiences, and recorded both pulse and breathing, and introspection. The introspective records first (1) clearly indicated the occurrence of straining and relaxing, exciting and depressing emotions; next (2), sometimes asserted the occurrence, in emotional experience, of elemental consciousness other than sensations, pleasantness and unpleasantness; finally (3) showed (in opposition to the results—later to be described—of Hayes) that either pleasantness or unpleasantness may occur in combination with any one of the four other 'feelings'. In other words, the records indicated that in pleasurable emotion subjects were sometimes in a state of tension, but sometimes relaxed, sometimes excited and sometimes depressed; and that in unpleasant emotion subjects were now relaxed, now strained, and now excited, again depressed. The objective results of these experiments are summarized by Alechsieff in the following scheme adapted from Wundt:⁴

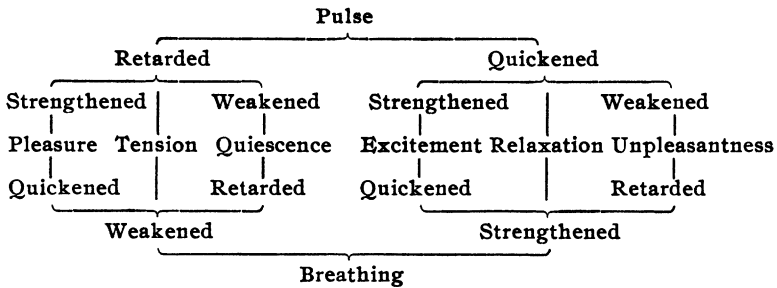
¹ "Physiologische Psychologie", 5te Ausg., 1902, II, pp. 284 ff. (Cf. "Grundriss", 1896, 1905; "Vorlesungen über die Menschen u. Thier Seele", 1897; "Gefühl und Bewusstseinsanlage", 1903).

² 'Quiescence' is Royce's synonym for 'Beruhigung'. Wundt has two equivalents for the term, namely 'Depression' and 'Hemmung'. For telling comment on the really divergent signification of the three terms, cf. Titchener, *op. cit.*, pp. 145 ff.

³ Cf. Wundt, already cited; Alechsieff cited in the next note; J. Royce, "Outlines of Psychology", 1903, pp. 176 ff.; O. Vogt, *Zeitschr. f. Hypnotismus*, VIII, p. 212, 1899 (and other writers cited by Alechsieff and Titchener, *op. cit.*).

⁴ "Die Grundformen der Gefühle", *Psychologische Studien*, 1907, III, pp. 156 ff.

⁵ Cf. "Grundriss," 1904, § 7, 104.



The Wundtian conclusion from both sorts of evidence is the following: Experiences which are thus shown to be, on the one hand, introspectively elemental, distinct, and independently variable and, on the other hand, accompanied by clearly differentiated yet co-ordinated circulatory and respiratory phenomena are elements of consciousness belonging in a class together. Therefore tension-relaxation and excitement-quiescence form, with pleasantness-unpleasantness, the enlarged class of the 'feelings (*Gefühle*)'.

This form of advance upon the old sensationalism has, however, found little favor outside the rather narrow group of Wundt's fellow-workers and students. No one questions the occurrence of straining and relaxing, exciting and quieting emotions; but these distinctions, it is claimed, are incorrectly referred to the presence of elemental 'feelings'—strain, relaxation and the rest. The alleged elemental experiences are analyzable, rather, into non-affective elements. Against the Wundtian arguments from experiment it is urged by the critics that the outcome of experiment is very far from conclusive in Wundt's favor. Even experiments undertaken from the same theoretical standpoint as Alechsieff's issue in results of very conflicting nature—results which he himself can explain only by a supposition which is really a criticism of the experimental method, the supposition, namely, that the stimulus was too complex to rouse any discoverably elemental experiences.¹

The experiments (earlier than Alechsieff's) carried on in the Cornell laboratory to test Wundt's theory² seem also to point

¹ Cf. Alechsieff, *op. cit.*, p. 175² *et al.*, for admission of the opposing results of experimental investigations of the breathing. For Alechsieff's attempts at explanation, *cf. op. cit.* p. 207; also pp. 180-200 where Alechsieff holds that psychologists have often confused with tension, with excitement, and even with attention, what is really a complex *Tätigkeitsgefühl* which includes both tension and excitement.

² "A Study of the Affective Qualities, I. The Tridimensional Theory of Feeling", *Amer. Jour. Psy.*, XVII, pp. 358 ff., 1906. For other criticism on the Wundtian theory, *cf. Orth.*, "Gefühl und Bewusstseinsanlage, 1903; M. Kelchner, *Archiv*, V, pp. 107 ff.

to the opposite conclusion. In these experiments Hayes presents to his subjects "series of stimuli—tones or colors or rhythms— . . . two at a time. . . . Every member of the series is paired with every other member. The observer has to decide which of the two . . . is the more pleasant, the more unpleasant, the more exciting, the more depressing, and so on." The results are the following: (1) Tension was "described throughout in kinæsthetic terms." (2) Only judgments of pleasantness, unpleasantness, and tension were easily made. (3) (In opposition to Alechsieff's later results) the decisions 'exciting' and 'relaxing' agree with the decisions 'pleasant'; whereas the decisions 'quiescent' and 'straining' agreed with the decision 'unpleasant'. In other words, the alleged elements did not vary independently, and Titchener concludes that "since the pleasant-unpleasant dimension is not in dispute, we have a strong indication that that alone is fundamental."¹

The impartial student of these counter investigations must admit that no decisive result, on either side, has as yet been experimentally established. Alechsieff challenges the presupposition of the Cornell experimenters that "it is impossible, through one and the same stimulus, to excite two different feeling-qualities";² and Titchener admits that the "argument upon which the experiments rest is not demonstrably valid ;"³ but, on his side, Alechsieff by his own confession has to twist and pull the results of Lehmann, Brahn, and others in order to fit them into his tridimensional theory. The failure of experiment throws us back on introspection; and on this basis, again, in the opinion of the writer, neither the Wundtians nor their critics wholly make their point. On the one hand the critics are justified in the assertion that elemental affective elements—or feeling-elements strictly co-ordinate with pleasantness and unpleasantness—are not discovered in our emotional experience. Yet, on the other hand, the opponents of the theory, in their attempts to reduce all four of the new 'feelings' to organic sensations, ignore introspective testimony which has at least the face-value of their own. When Alechsieff's subjects protest⁴ that they "feel the strain-sensations", but that they experience in addition to the strain sensations (and to the pleasantness or unpleasantness) a residuum which reduces neither to sensation nor to affection, there is no valid reason to discredit their testimony. But their 'residuum' will turn out, in the view of the writer, to be either identical with 'clearness' (the attention-element), or to belong to a third class of elemental experiences—a class co-ordinate with sensations and affections—that of relational experiences.

¹*Op. cit.*, pp. 161²-164² ff.

²*Op. cit.*, p. 208.

³*Op. cit.*, p. 167³.

⁴*Op. cit.*, p. 202.

The radical modification of Wundt's theory embodied in the last sentence is submitted for the consideration of his critics. Stated in more detail it involves the following teaching:

(1). 'Tension' is reducible to attention, or clearness, plus the organic sensations characteristic of attention.

The significance of this assertion varies, of course, according to one's doctrine of attention. If one follow Professor Titchener in the teaching that attention, or clearness, is itself sensational—in other words, that one may attend to sensations only—then we have here no enlargement of the traditional list of elements. But, in the view of the writer, Titchener's teaching cannot be maintained. He himself is at pains to admit that it is opposed to the view of several psychologists—he names Sully, Meumann, Saxinger¹—who hold that unsensational contents may be attended to. The doctrine seems, indeed, inconsistent with Titchener's own doctrine: that introspection consists simply in attention to phenomena. For, as Titchener unequivocally teaches, the affections are known by introspection and it follows that they must be 'clear' or 'attended to'. The denial of the sensational character of tension (attention) leaves us with the problem of the nature of it still upon our hands. The conclusion of the writer—which there is not here time to defend in detail—is that attention is an elemental consciousness co-ordinate in various ways both with pleasantness-unpleasantness (the affections) and with the elemental experience of realness, and thus belonging with these to a larger class of 'attributive elements of consciousness'.² This is a doctrine agreeing with Wundt's both in that it admits the unsensational and elemental character of tension (attention) and in that it co-ordinates tension with pleasantness-unpleasantness, but agreeing with the teaching of Wundt's critics in refusing to call tension 'affection' or 'feeling'.

(2). Relaxation, in the second place, probably is merely the absence of strain. Alechsieff himself seems virtually to imply this.³ So far as relaxation is a positive experience it seems to reduce, as Titchener teaches, to organic sensations.

(3) and (4). The case is different with excitement and quiescence (*Erregung-Beruhigung*). These are complex, not elemental, experiences; and the distinguishing feature of them is neither the organic sensations—though these are present and significant—nor any new kind of feeling, but rather the vivid consciousness of doubtful future or of irrevocable past. This analysis is corroborated by a study of the introspective records

¹ *Op. cit.*, pp. 74, 76, 334.

² For further discussion, *cf.* the writer's "An Introduction to Psychology", chapter IX (in the second edition, 1905).

³ *Cf. op. cit.*, p. 222¹. Titchener has a similar criticism, p. 145².

of those who treat excitement and tranquillity as forms of affection. A striking confirmation of it is found in Royce's discussion of 'quiescence and restlessness': "We tend to regard with restlessness whatever tendency involves our interest in immediately future changes. The emotions of . . . fear, of hope, of suspense are accordingly especially colored by restless feelings. On the other hand, the feelings of quiescence predominate when . . . we regard the past."¹

The analysis of the Wundtian theory has led, accordingly, to the conclusion that Wundt is unjustified in his teaching of the two new pairs of feelings co-ordinate with each other and with pleasantness-unpleasantness. Only one of the four, namely strain, is either elemental or—in any sense—parallel with pleasantness-unpleasantness. Relaxation, a second of these alleged elements, seems to reduce to bare sensation, where the name does not indicate mere absence of strain. The other two, excitement and quiescence, are, indeed, as the Wundtians insist, unsensational; but the unsensational elements which distinguish them are not affective elements (or feelings), but rather relational elements. A discussion of this third group of conscious elements, and of the theories about them, will form the final section of this paper.

II

The doctrine of elements of consciousness which are neither sensational nor in any sense co-ordinate with the affections or feelings is upheld by psychologists of the most diverse schools. Herbert Spencer was the first to name and to discuss them,² but his teaching attracted little notice and thirty years passed before Ebbinghaus rediscovered the *Gestaltqualitäten*,³ and James wrote of the 'transitive feelings' of 'and', 'but', and 'if'.⁴ To-day two groups, or schools, and several individuals among Continental psychologists and a considerable number of English-speaking psychologists more or less unequivocally teach the occurrence of elements of consciousness neither sensational nor affective. There is, first, the school of Meinong⁵ which discusses relational elements under the names '*fundirte Inhalte*' and '*Gegenstände höherer Ordnung*'.⁶ The second of the Con-

¹ "Outlines of Psychology", p. 180².

² "The Principles of Psychology", first edition (1855), § 81, p. 285.

³ *Vierteljahrschr. für wissenschaftliche Philos.*, XIV, p. 249, 1890.

⁴ "Principles of Psychology", I, p. 247, Note.

⁵ A. Meinong: *Zeitschrift*, II, p. 247, 1891; and XXI, pp. 182 ff.; and "Ueber Annahmen", 1902.

⁶ A. Höfler ("Psychologie"), and S. Witasek ("Grundlinien der Psychologie", 1907), have incorporated Meinong's doctrine in systematic treatises.

tinental schools is that of Külpe and the students and workers in the Würzburg Institut, Watt,¹ Ach,² Messer,³ Bühler,⁴ and others. Individual upholders of the theory are Binet,⁵ Stumpf with his doctrine of *Gebilde* and *Verhältnisse*,⁶ Cornelius,⁷ and, finally, in spite of great divergence in terminology, Münsterberg and Ebbinghaus.⁸

Of writers in English, Stout,⁹ R. S. Woodworth,¹⁰ and the writer of this paper¹¹ have most explicitly taught the occurrence of these elements of consciousness, neither sensational nor affective, which are especially characteristic of what is called thought. Judd, also, describes concept and judgment in terms of relation;¹² and Angell, in spite of his denial of literally imageless thought,¹³ seems to indicate by his term 'meaning'¹⁴ a relational experience.¹⁵

It thus appears that the introspection of a score of psychol-

¹*Archiv f. die gesamte Psychologie*, IV, 288 ff., 1905.

²"Ueber die Willenstätigkeit und das Denken" (based on experiments carried on in Würzburg and in Göttingen), Göttingen, 1905.

³*Archiv*, VIII, 1 ff., 1906.

⁴*Archiv*, IX, 297 ff., 1907; XII, 9 ff., 1908.

⁵"L'étude expérimentelle de l'intelligence," Paris, 1903.

⁶"Erscheinungen und Psychische Funktionen", Königl. Akad. d. Wissenschaften, Berlin, 1907, pp. 7 ff., 29 ff.

⁷"Psychologie als Erfahrungswissenschaft", pp. 70, 164 *et al.*; *cf.* also *Zeitschrift*, XXII, pp. 101 ff. (1899), where Cornelius develops a teaching of G. E. Müller.

⁸Ebbinghaus ("Grundzüge", I, pp. 410 ff.) recognizes as elements only sensations and affections, while Münsterberg ("Grundzüge", I, pp. 290 ff.) admits sensations only. Yet the first includes under the head of 'general attributes of sensation' and the second groups in the class of value-qualities the identical part-experiences which are here considered as relational elements.

⁹"Analytic Psychology", I, pp. 66; 78-96; II, p. 42.

¹⁰"Imageless Thought", *Journal of Philos., Psychol. and Scientific Method*, III, pp. 701 ff., 1906.

"The Cause of a Voluntary Movement" in *Studies in Philosophy and Psychology by Students of C. E. Garman*, pp. 351 ff.;

"Non-Sensorial Components of Sense-Perception" *Journal of Philosophy*, etc., IV, pp. 164 ff., 1907.

¹¹"An Introduction to Psychology", 1901, chapter X (especially in the second edition, 1905); "Der doppelte Standpunkt in der Psychologie, 1905, pp. 25 ff.

¹²"Psychology, General Introduction", 1907, pp. 286 ff.; *cf.* p. 72.

¹³*Philosophical Review*, 1897, pp. 646-657.

¹⁴"Psychology", 1904, p. 213 *et al.*; *cf.* p. 267⁸.

¹⁵It is to be regretted that enthusiastic upholders of the relational-element doctrine have remained so comparatively oblivious of each other. I find only one writer, later than James, who refers to Spencer's advocacy of the doctrine. The writers of the Meinong school seldom if ever mention any English-speaking upholders of the theory. Dr. Montague alludes, in the *James Festschrift*, to "Professor Woodworth's discovery of the . . . non-sensorial elements of many topics of thought", and Woodworth himself, in the three papers already cited, refers only to Bühler and other writers of the Würzburg school.

ogists, of different periods, prepossessions, and training, speaks unequivocally in favor of the occurrence of elements neither sensational nor affective. It is true that there is no direct physical stimulus of these relational elements and that it is difficult to make out with assurance a complete and definite list of them. Enthusiastic adherents of the doctrine have doubtless alleged as elements what are, after all, complex experiences; but when all has been said, the critics of the doctrine have nothing decisive to urge against the unambiguous introspection of psychologists so divergent in general theory as these already named.

It must be added that this testimony has been fortified, in recent years, by introspection under experimental conditions. One of the latest and most complete of such investigations is made by Bühler whose method—a modification of that of Marbe¹ and Messer—is, in brief, the following. He puts to his subjects, trained introspectors, questions answerable by 'yes' or 'no' which are intended to excite their thought. After a question has been answered the subject at once analyzes the consciousness preceding and leading to his answer. The questions are suited to the interests of the subjects. Illustrations are: "Can you reach Berlin in seven hours"? "Does monism mean the annihilation of personality"? The results of the investigation have been (1) the discovery that in most cases the observers are distinctly conscious of unsensational and non-affective experiences; (2) the apparent occurrence of some cases where no image, verbal nor concrete, can be detected; (3) the confirmation of this introspection by the discovery that a subject often remembers *not* the images, but only the relation—say, of likeness or of opposition—in an earlier experience. Wundt has very sharply criticised the method of these experiments on the ground, mainly, that it involves disturbance of the subject, and that it does not admit of repetition and variation of the experience to be studied.² In the opinion of the writer Bühler successfully meets this attack, appealing to the records of his subjects for evidence of their being undisturbed; and holding that repetition and variation are, in fact, obtainable in the essential sense that questions of the same or of regularly varying types may be repeated.³

Woodworth's method and results resemble those of the Würzburg school, except that he confines himself to the study of comparison (the discovery of equivalent relation), and that in one group of his experiments he offers concrete material—

¹ "Experimentell-Psychologische Untersuchungen über das Urteil", Leipzig, 1901.

² "Ueber Ausfrageexperimente", *Psychologische Studien*, 1907, III, pp. 300-360 (Cf. Wundt's rejoinder, *Archiv*, XI, 1908, to Bühler's reply).

³ *Archiv*, XII, especially pp. 94, 103, 107.

colors and forms—for comparison. Earlier experimenters have found traces of relational experiences in the course of investigations concerned primarily with association. The experiments, for example, by which Professor Gamble and the writer tested Lehmann's assertion that recognition consists in associated images, disclosed a large number of cases in which the consciousness of familiarity, occurring markedly earlier than any associated images, is most readily described as relational experience.¹

It is highly important to emphasize the fact that this doctrine of a third kind of elemental consciousness is not necessarily synonymous with the hypothesis of imageless thought. The writer of this paper frankly deprecates the tendency of certain psychologists—of Stout, Bühler, Woodworth, for example—to insist that the occurrence of imageless thought has been proved. For it is always possible to question the completeness and the accuracy of the introspect on which this conclusion is based. What is abundantly proved is that along with imagery, and often in the focus of attention, when one compares and reasons and recognizes, are elements neither sensational nor affective. It is unwise and unnecessary to advance a larger claim. Wundt's constructive suggestion that the so-called relational factor in experience analyzes into feeling and attention derives all its cogency, in the opinion of the writer, from the fact, already discussed, that Wundt's feelings include relational factors. In other words, Wundt can afford to deny relational elements because he illicitly and unwittingly holds them concealed within his heterogeneous class of 'feelings'.

From this review of the Wundtian doctrine of the 'feelings' and of the doctrines—diverse in form but alike in essentials—which affirm that there are relational of 'thought'-elements in consciousness it is clear that the domination of sensationalism in psychology has passed. This means the enfranchisement of psychology from the most hampering of the prejudices which have retarded its progress. The *a priori* assumption that all consciousness is completely analyzable into sensational factors has too long interfered with introspective observation. Students of consciousness, successful in finding what they were told to find, have resolved recognition into associated imagery, thought into verbal imagery, and will into antecedent images, with complete disregard of any further outcome of introspection. The downfall of pure sensationalism should be welcomed by psychologists in the interest—not of any other theory—but of free and unprejudiced experimental observation.

¹"Die reproduzierte Vorstellung beim Wiedererkennen", *Zeitschrift*, 32, pp. 177 ff., especially p. 192. The study of Watt, already cited, is primarily an investigation of association.